Interfaces for Wide Area Information Servers

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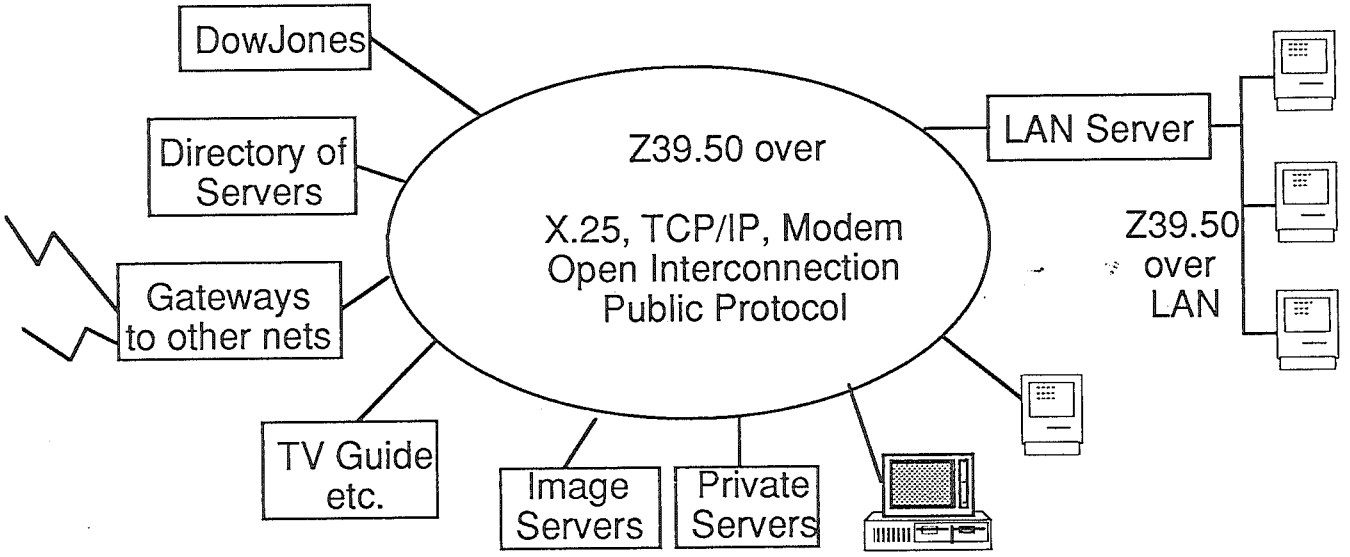
Talk Overview

- WAIS overview
- New problems for computer interfaces
- WAIS Interfaces:

DowQuest:	TTY over 2400 Baud
SWAIS:	CRT Screen
GWAIS:	Screen/Emacs
XWAIS:	XWindows/Unix
WAIStation:	9" Macintosh
Rosebud:	12" Macintosh

- Conclusion

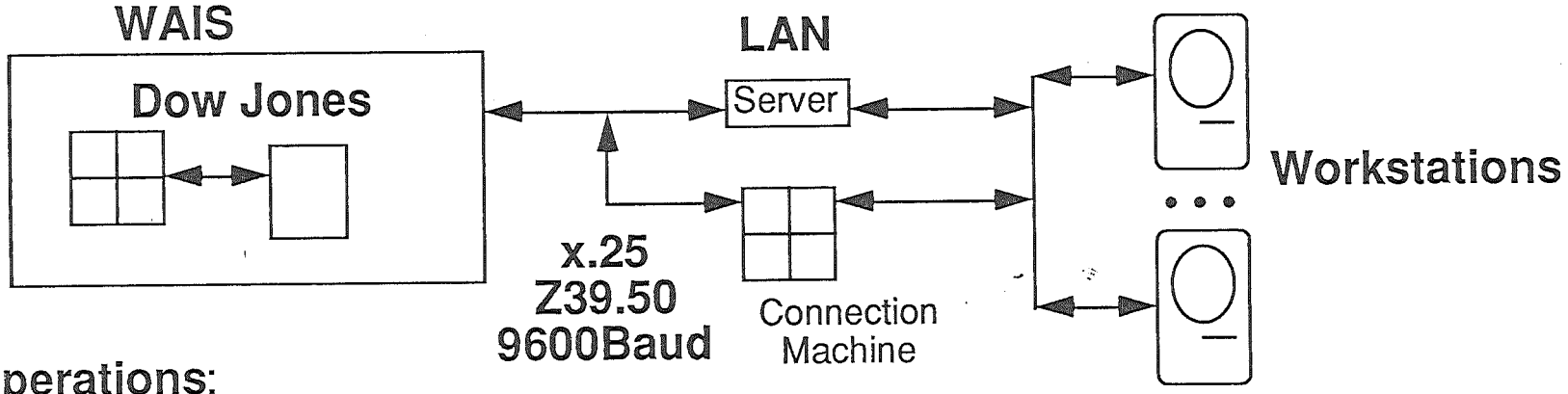
WAIS Architecture



Users Needs:
- Selecting Servers
- Answering Questions
- Organizing Responses

Architecture Issues:
- Scalability
- Security
- Business model for servers
- Reliable Access

Office Demonstration System



Operations:
Archiving
Queries
Retrieval
IR Type:
Broadcast
Query by Example
Databases:
Wall St Journal
Barron's
400 Business Mags

CM: Operations: Queries
IR Type:
enhanced relevance feedback
DBs: DowVision and
memo's, mail,
word processor files

Mac:
Operations:
Human Int
Retrieval
Queries
"Caching" Docs
User Profiles
IR Type:
Query by example
DBs:
Personal Text
Cached data

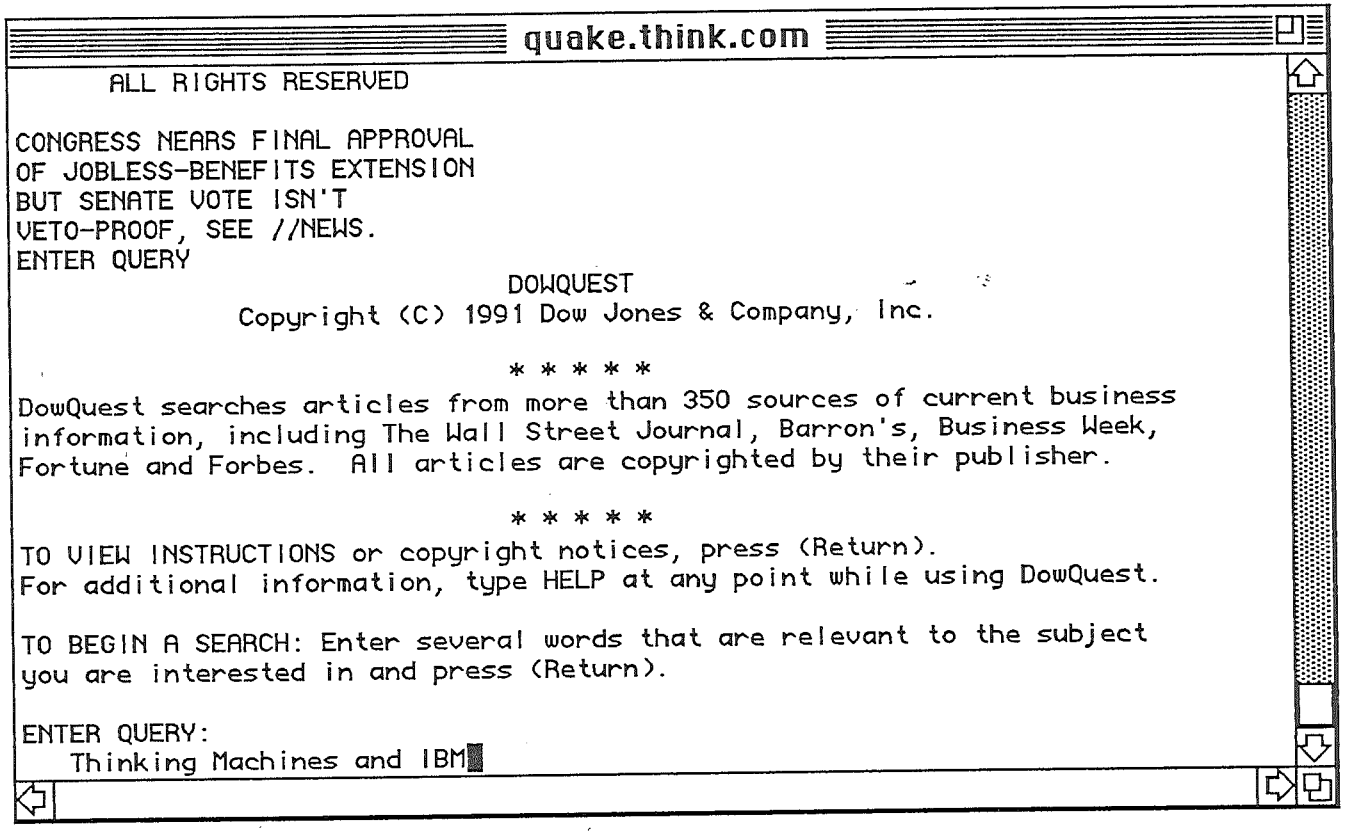
New Problems

- Your machine will be spending your money,
- The information on your computer will constantly changing
- Browsing online information will become common
- Your machine will know more about you than your spouse

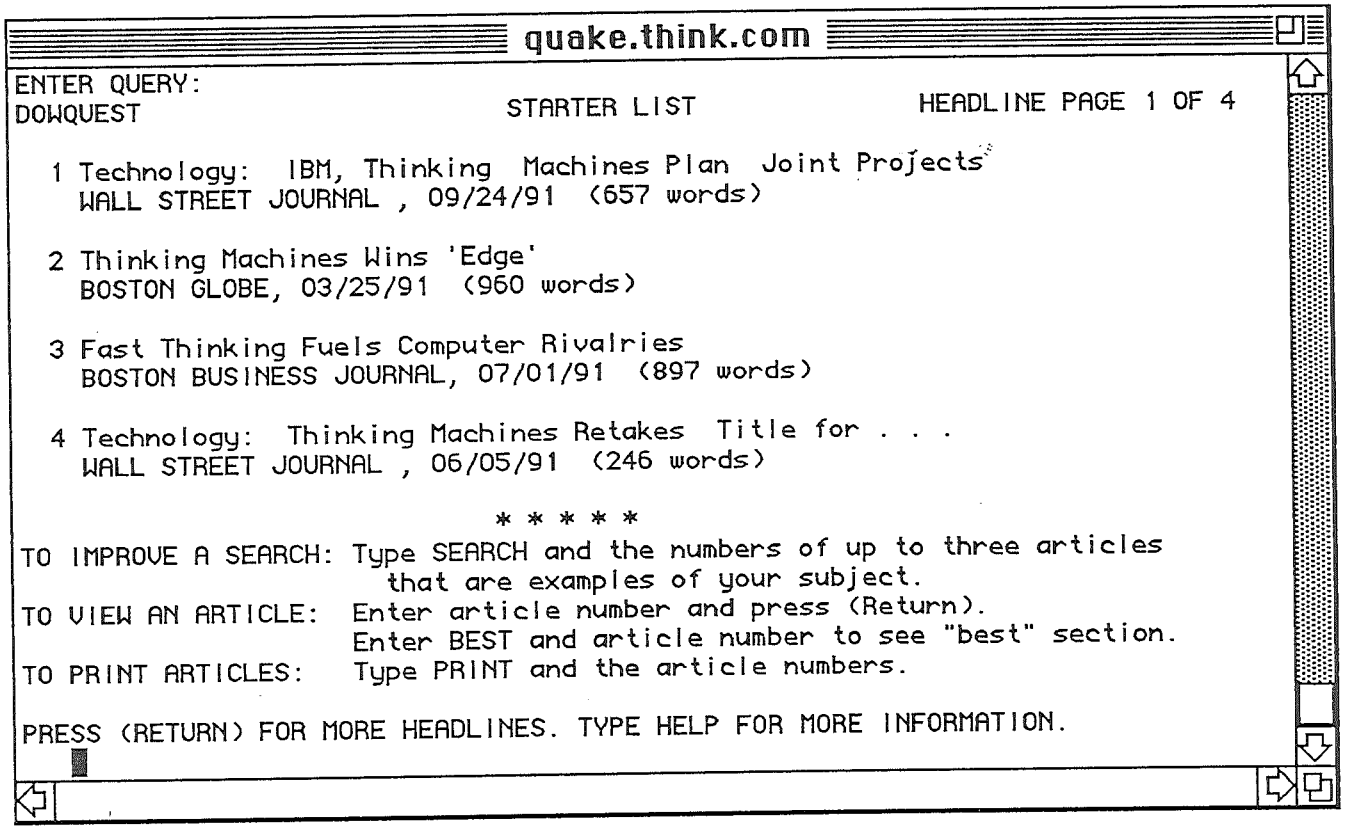
Technology Limits

- Screen size and resolution
- Communications speed
- User communities' acceptance

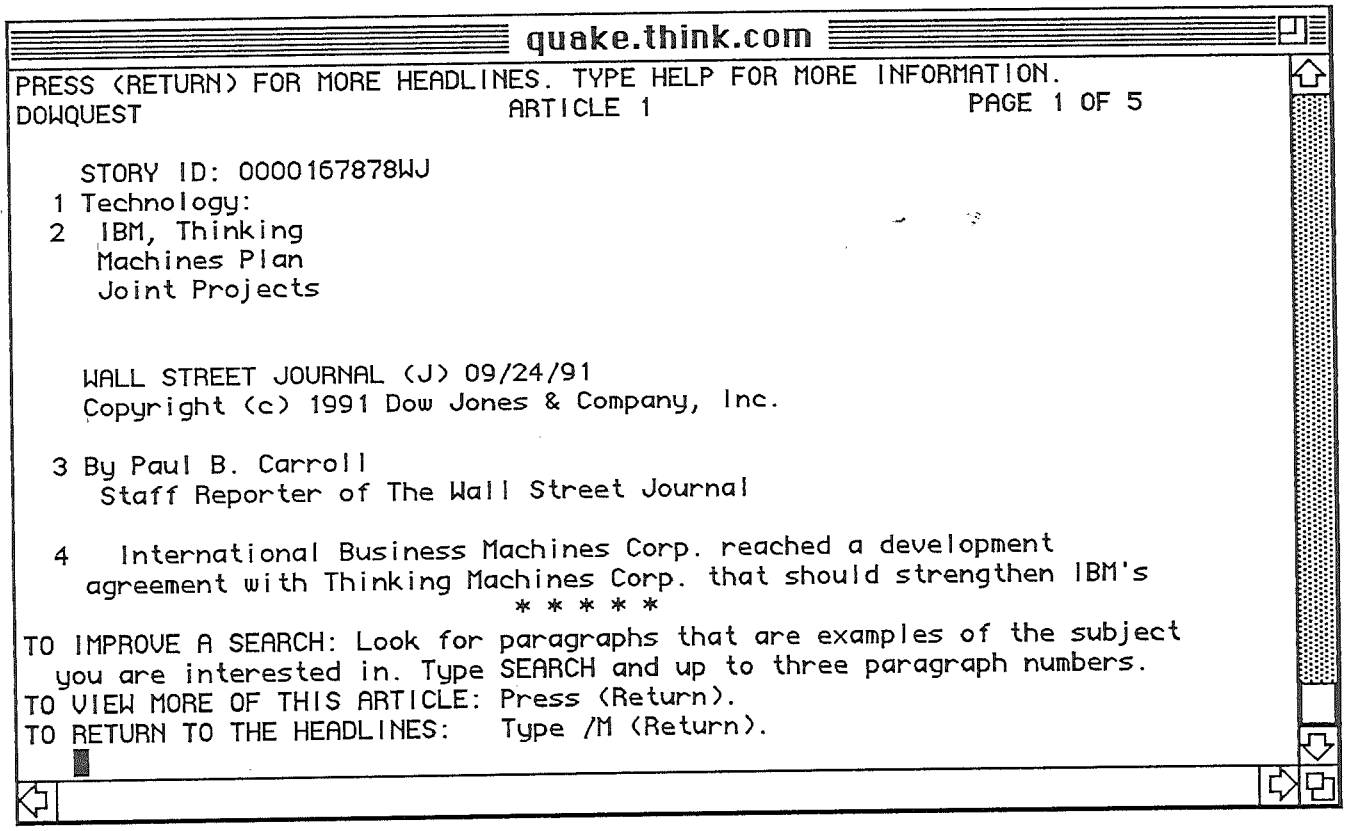
DowQuest Startup and Question



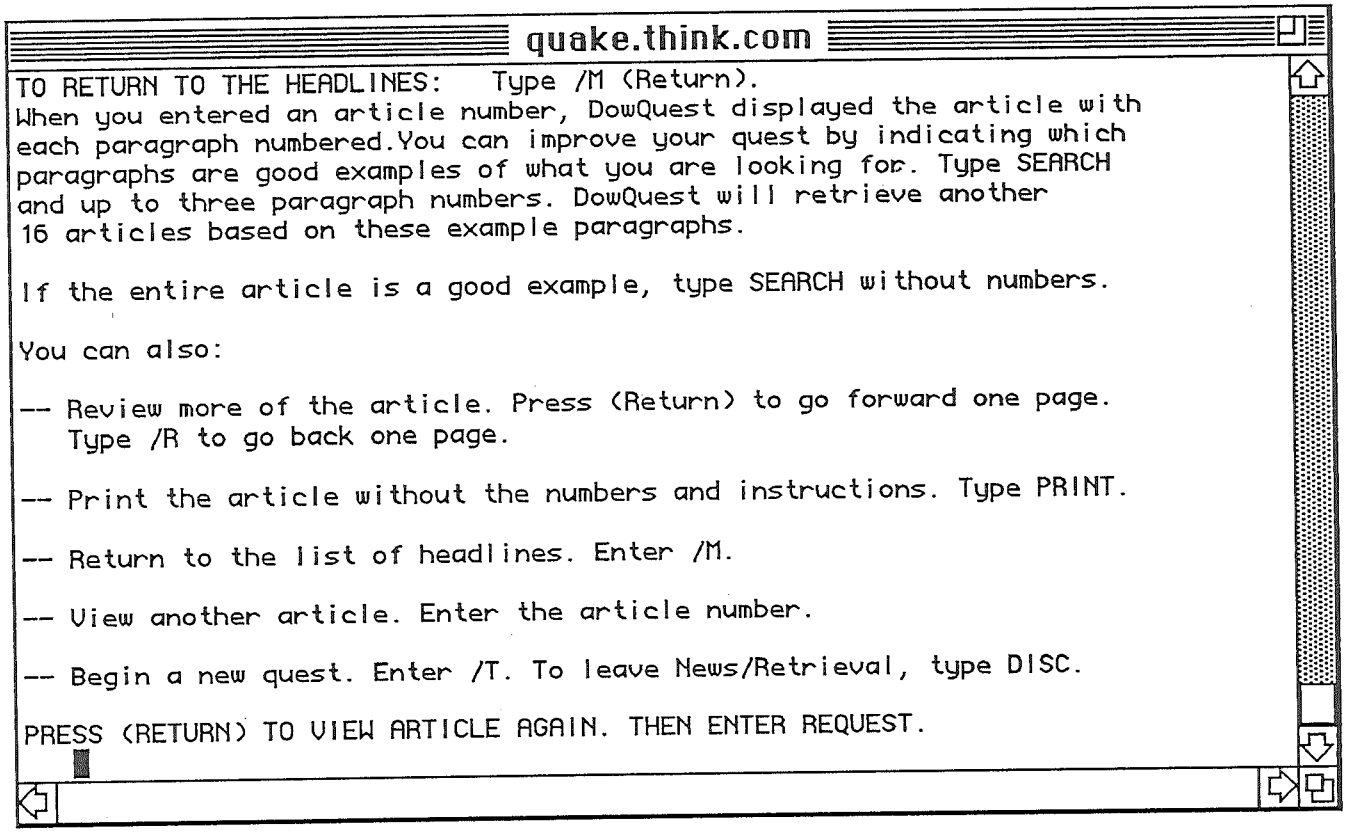
DowQuest Search Response



DowQuest Document Screen



DowQuest Help Screen



DowQuest: What's New?

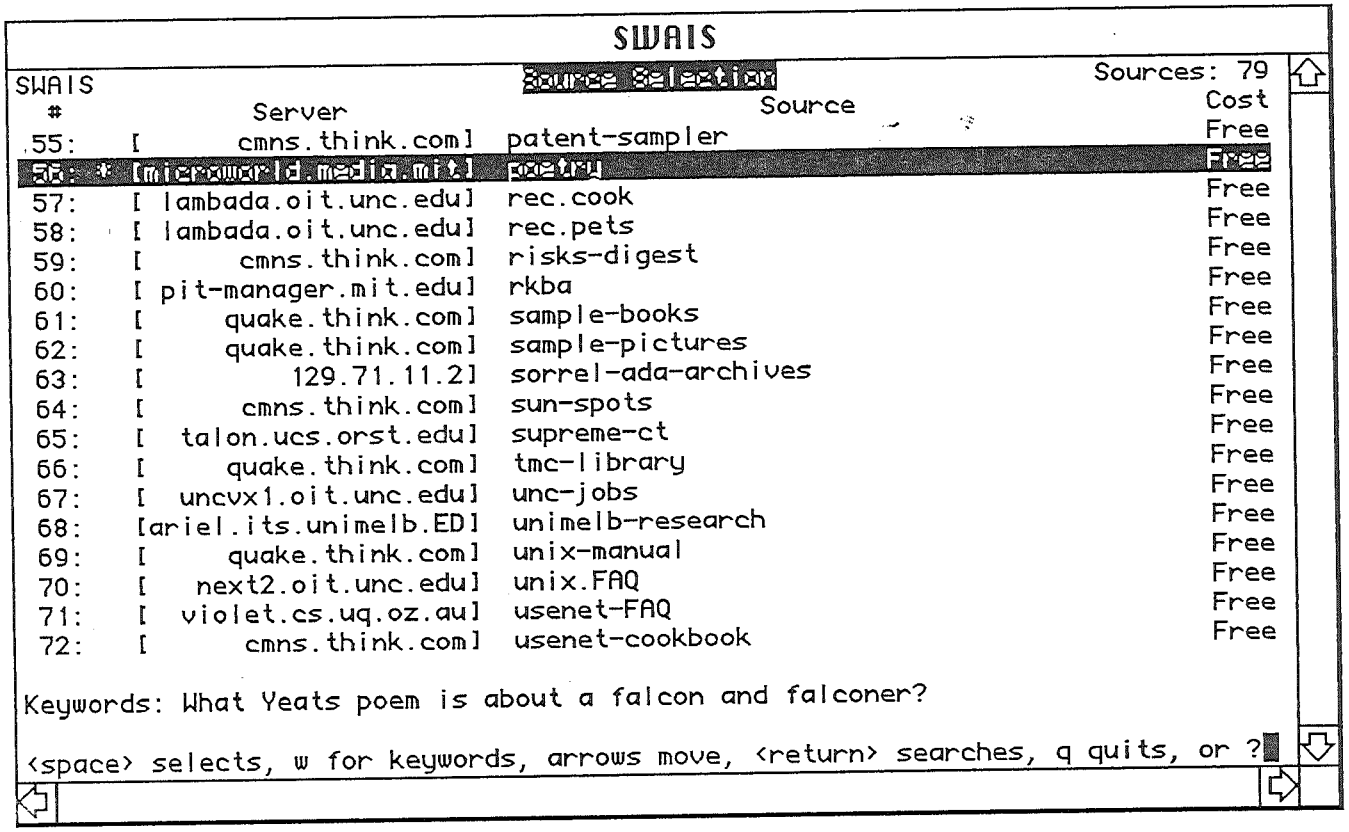
- English Language + Relevance Feedback

Designer: DowJones
Use: Call DowJones at 609-520-4000

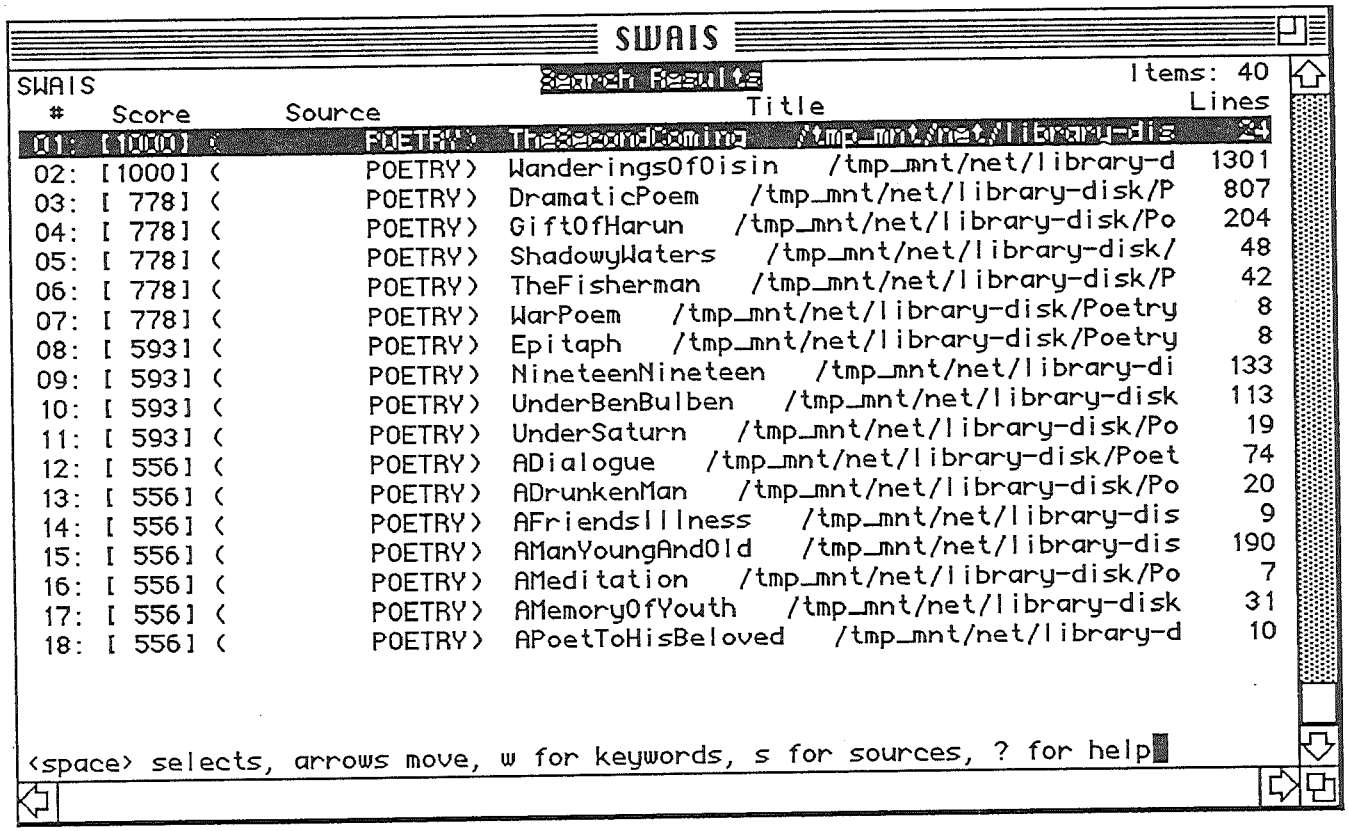
DowQuest: Problems

- Only published information
- TTY interface
- $2/minute (expensive for browsing)
- 2400 baud access

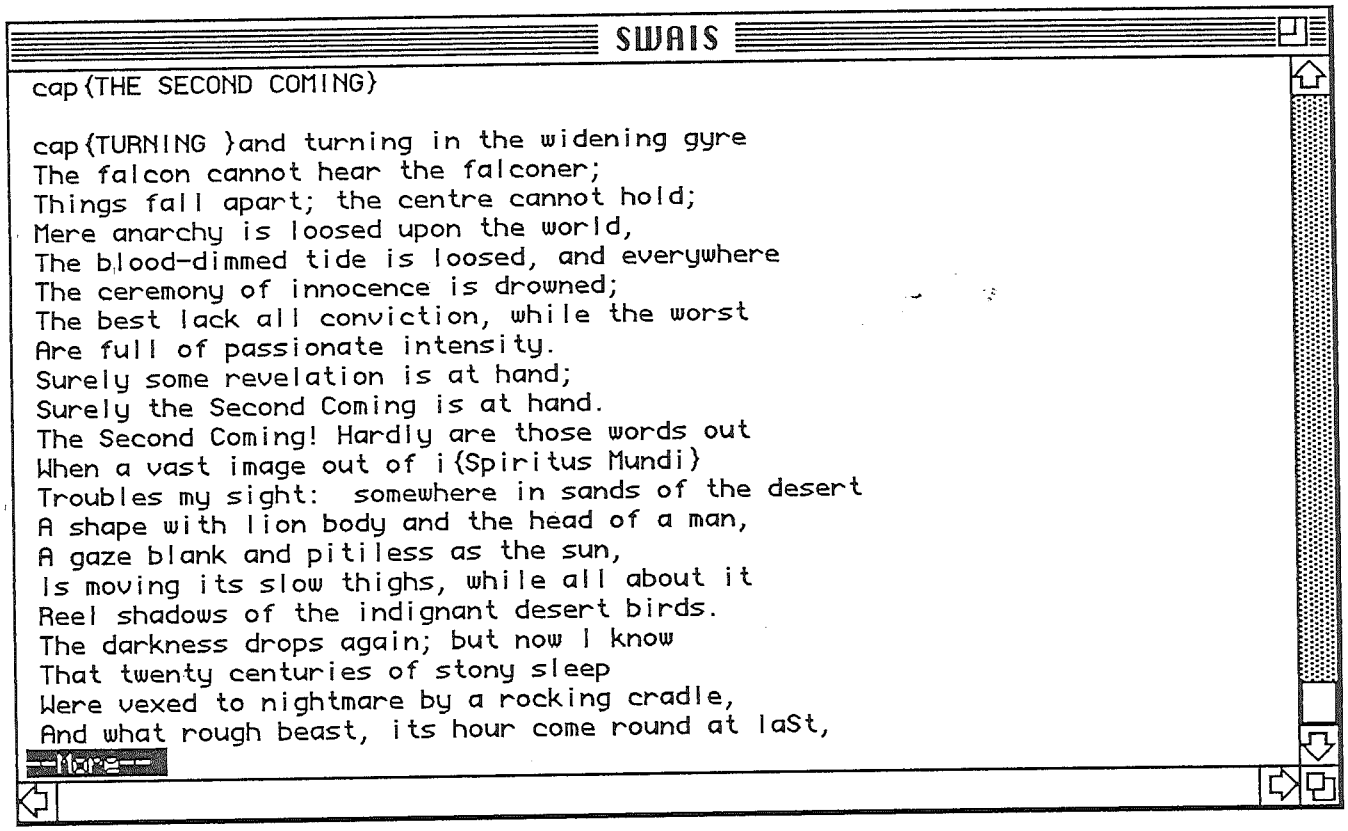
SWAIS Source Window



SWAIS Resulting Documents



SWAIS Document Window



SWAIS: What's New?

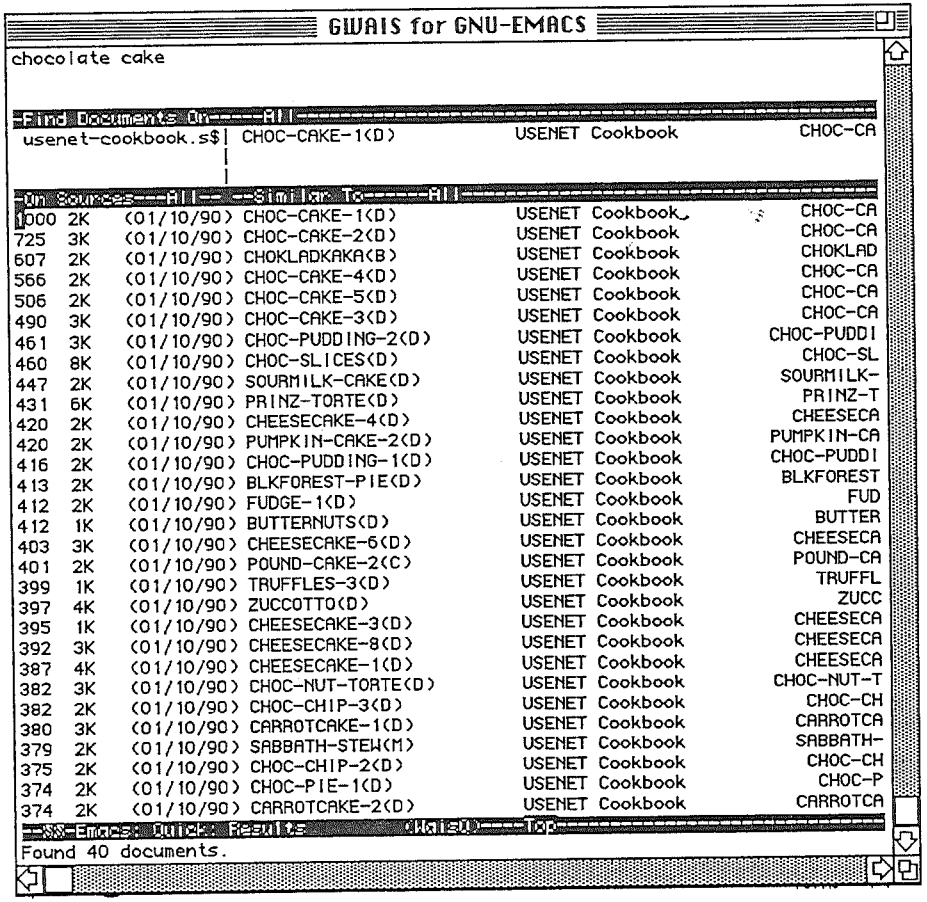
- Multiple sources
- Remote sources
- Context sensitive help
- Screen based

Who: John Curran of NSF
Use: Telnet quake.think.com login wais

SWAIS: Problems

- No support for the Directory of servers
- Scrolling through many servers

GWAIS Question Window



GWAIS: What's New?

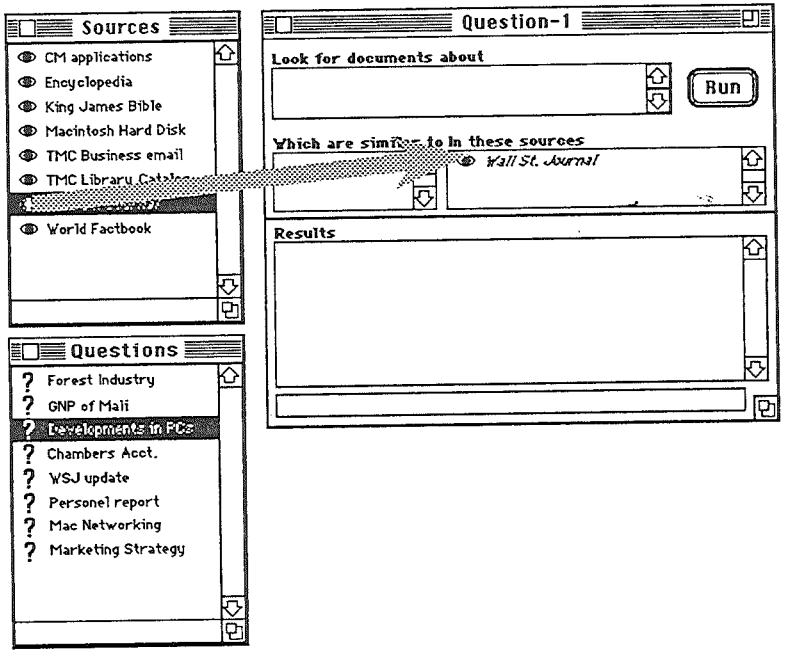
- Relevance feedback of documents or paragraphs
- Integrated into an editor (gnu-emacs)
- Screen-based, but multi-window
- Non-modal
- Supports creation of private sources via indexer

Designer: Jonathan Goldman of Thinking Machines
Use: anonymous ftp /public/wais/wais-8-*@think.com

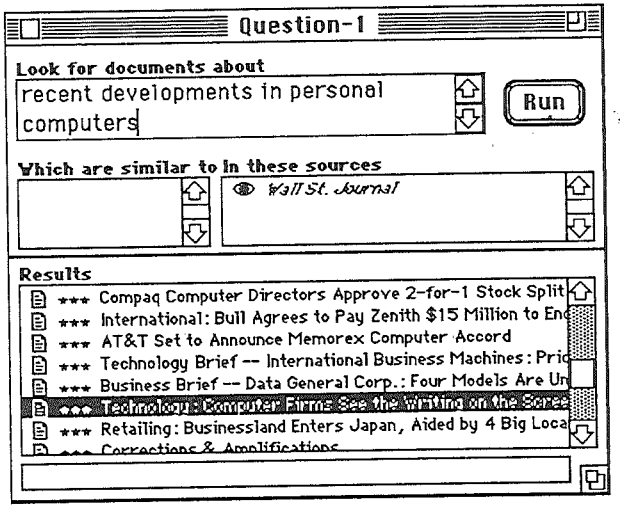
GWAIS: Problems

- Limited to emacs users
- Directory of Servers
- Moving between windows

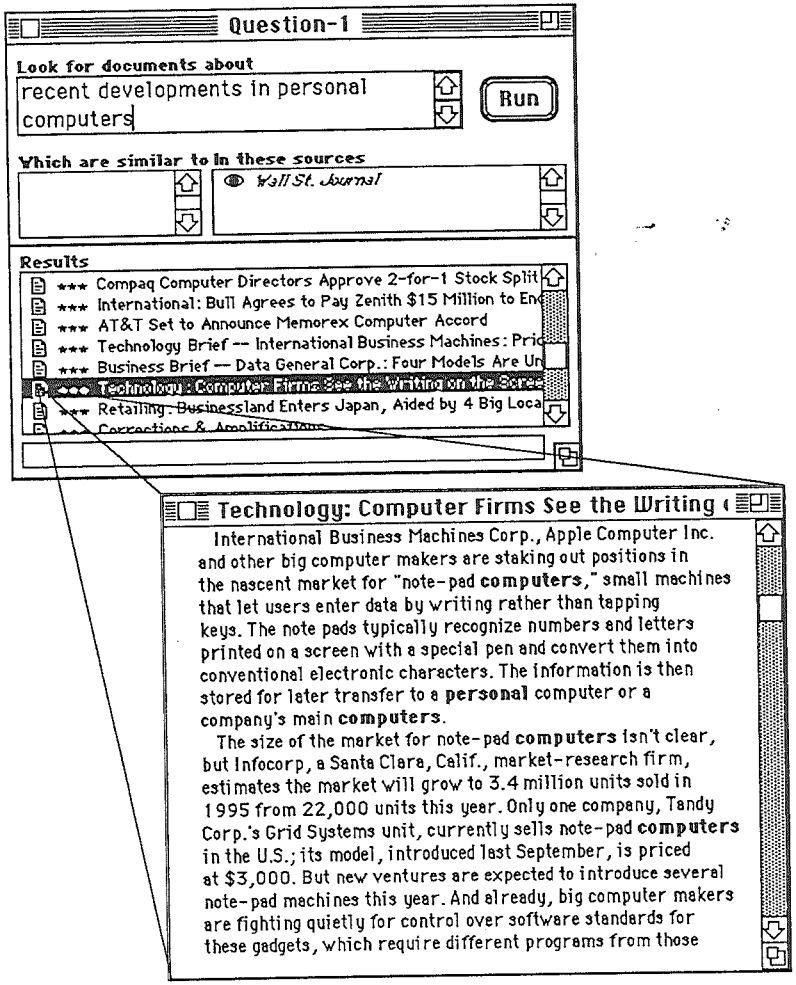
WAIStation #1: Select Source



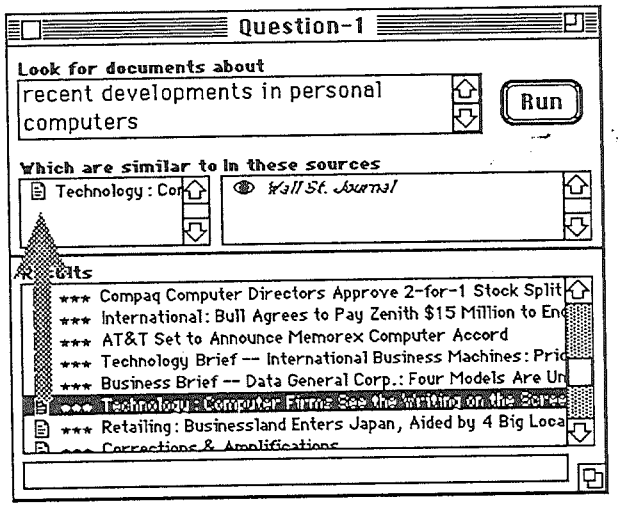
WAIStation #2: Ask Question



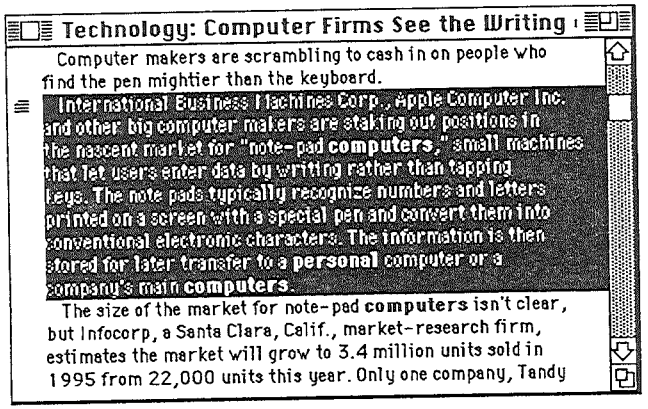
WAIStation #3: Retrieve Documents

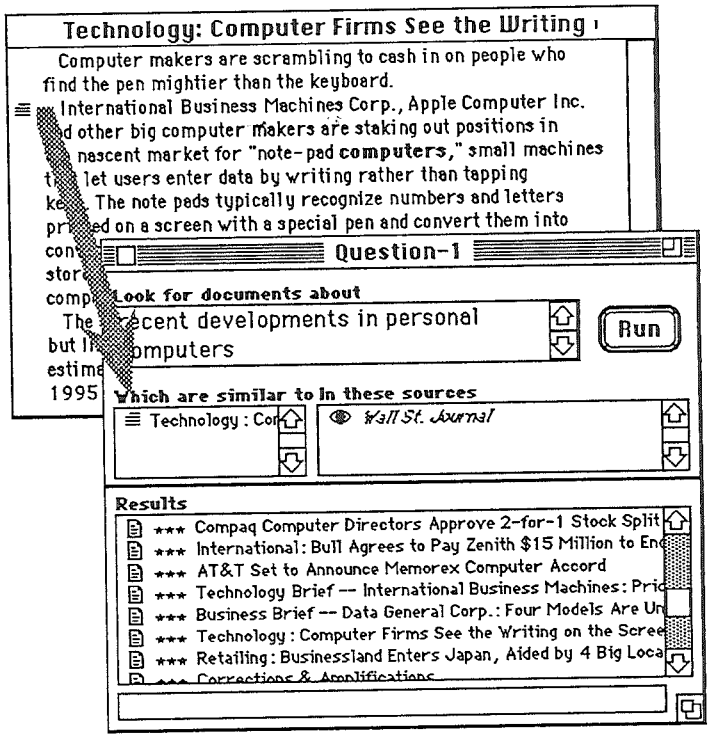


WAIStation #4: Relevant document

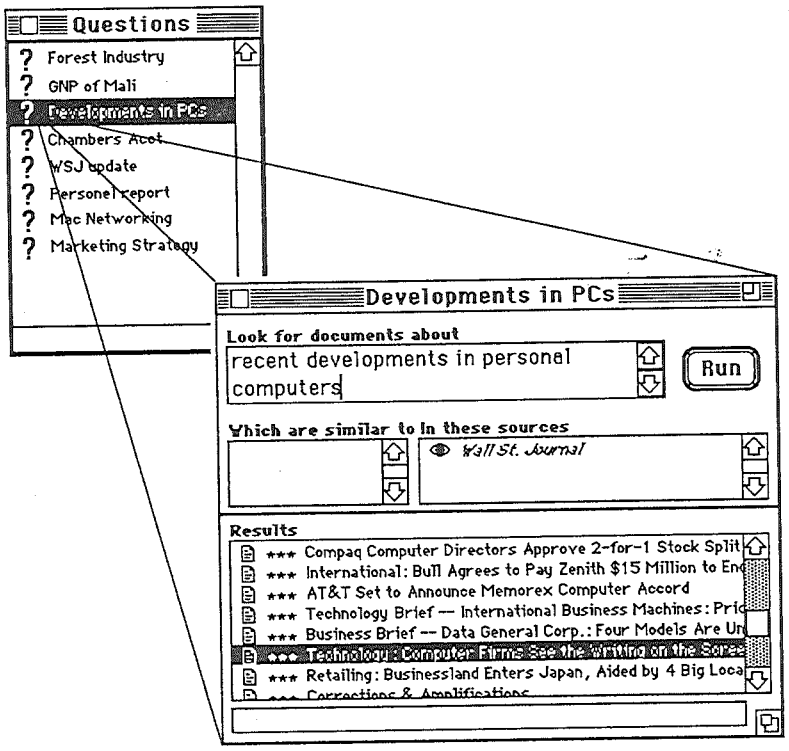


WAIStation #5: Relevant Paragraph

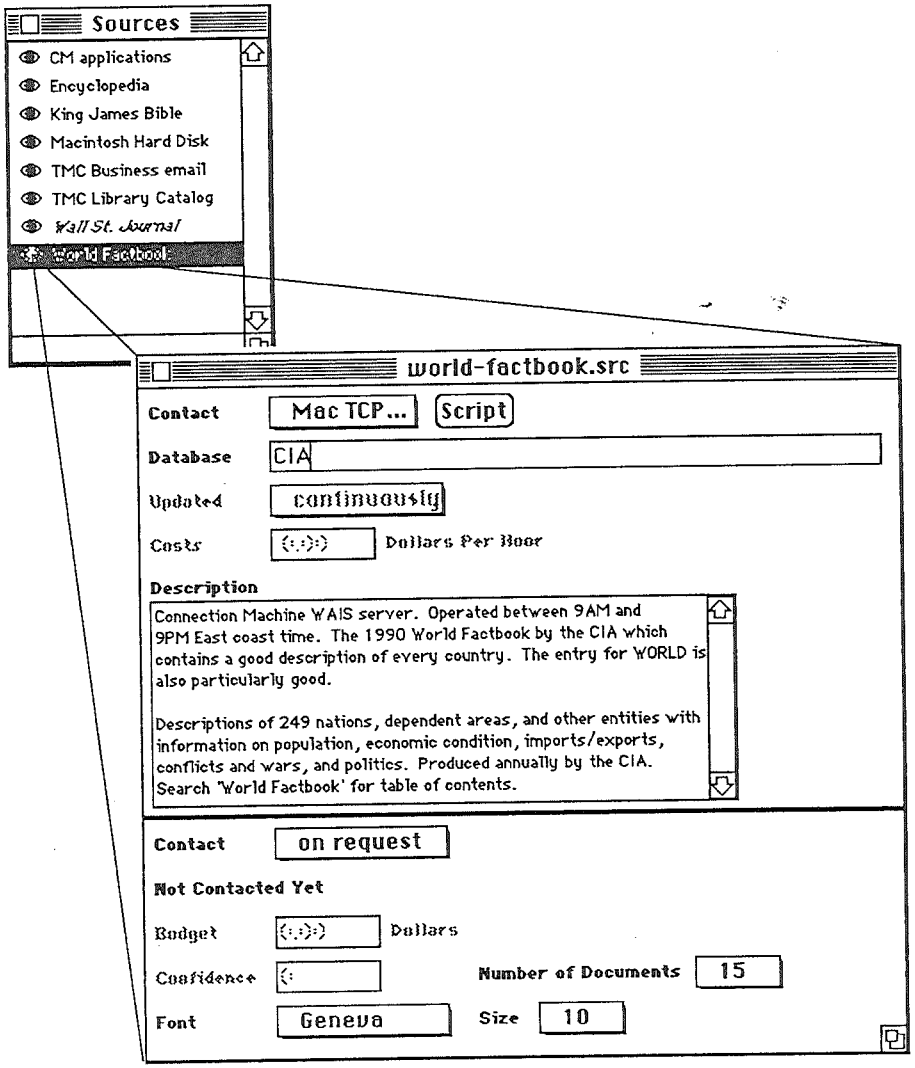




WAIStation Saved Question



WAIStation Source Window



WAIStation: What's New?

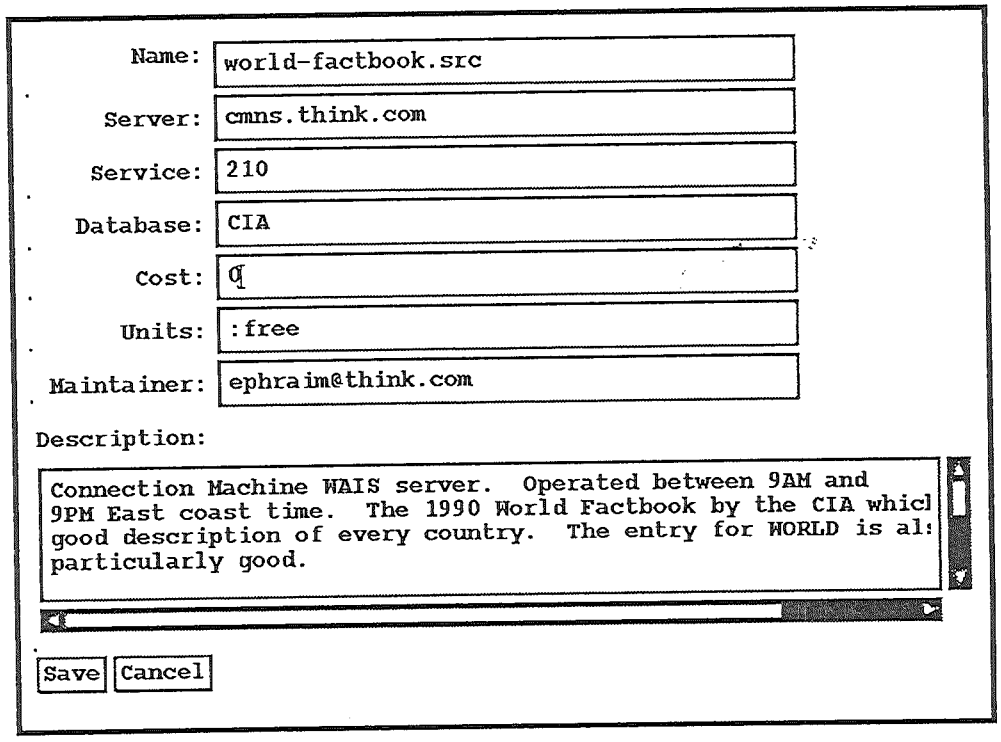
- Metaphor: dynamic folders and conversation
- Windows with drag and drop manipulation
- List of saved servers and questions: Multi-context
- Scores graphically represented
- Sources: alerting, budgets, and confidence
- Document Window: best section, highlighting downloading parts of documents
- Multimedia document display

Designer: Harry Morris of Thinking Machines
Use: anonymous FTP from /public/wais/WAIStation*@think.com

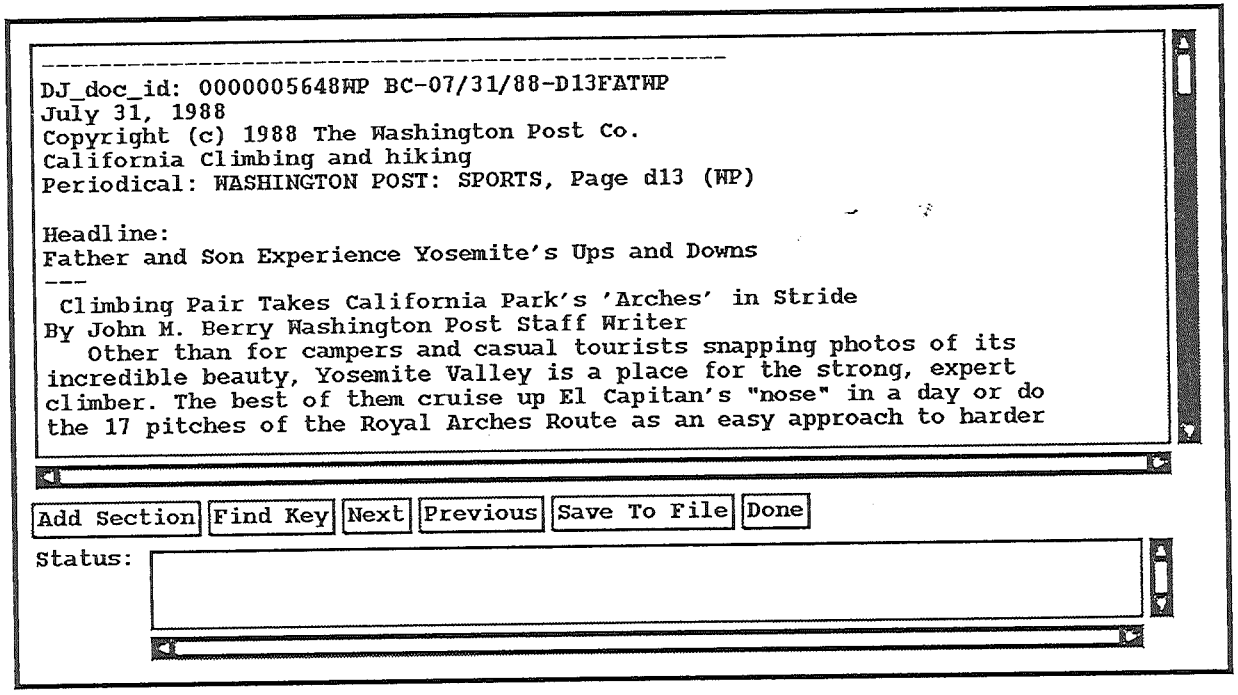
WAIStation: Problems

- Directory of servers
- Documents not in original format
- Relevance feedback was not obvious
- 2400 baud was too slow (> 10 sec. search)
- Drag and drop was not obvious to new users
- Alerting was awkward
- Headlines are often not enough context

XWAIS Source Screen



XWAIS Document Screen



XWAIS: What's New?

- Interapplication communication for display
- Alerting via cron
- Quick to implement: 2 months

Who: Jonathan Goldman of Thinking Machines
Use: anonymous FTP: /public/wais/wais-8*@think.com

XWAIS: Problems

- Multiple processes not centrally controlled
- Hard to install

Rosebud: What's New?

- Color
- Designed for alerting
- Newspaper format using first part of documents
- Notebook organizer

Designer: Thomas Erickson and Gitta Salomon
Use: Not public

Rosebud: Problems

- Dealing with multiple servers
- No support for Directory of Servers
- No multimedia
- No relevance feedback of sections

New Problems (revisited)

- Your machine will be spending your money,
- The information on your computer will constantly changing
- Browsing online information will become common
- Your machine will know more about you than your spouse

Conclusion

- Beginning of development: infrastructure is stabilizing
- Treat source selection specially
- Alerting interfaces are untested and new